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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,239	03/30/2004	Monica Farkash	IL920030060US1	4828
7590 05/05/2006			EXAMINER	
Stephen C. Kaufman Intellectual Property Law Dept. IBM Corporation P.O. Box 218 Yorktown Heights, NY 10598			BOWERS, BRANDON	
			ART UNIT	PAPER NUMBER
			2825	
DATE MAILED: 05/05/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/813,239

Applicant(s)

FARKASH ET AL.

Examiner

Brandon W. Bowers

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-8,12-27,31-33,37-39,42,44-50 and 53 is/are rejected.
- 7) ☒ Claim(s) 3-5,9-11,28-30,34-36,40,41,43,51,52 and 54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20040910.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-25 and 44-49 rejected under 35 U.S.C. 102(b) as being anticipated by Beatty et al. US Patent No. 5,615,127.

With regards to these claims, Beatty teaches an apparatus comprising processors (column 4, lines 47-65) wherein one is designated the master processor and one or more others are designated slave processors (column 4, lines 7-12). With regards to the limitations set forth in the wherein clauses of the claims that describe the functionality of the processors, the MPEP

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states:

**APPARATUS CLAIMS MUST BE STRUCTUR-ALLY DISTINGUISHABLE FROM THE PRIOR ART**

>While features of an apparatus may be recited either structurally or functionally, claims< directed to >an< apparatus must be distinguished from the prior art in terms of structure rather than function. >*In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) (The absence of a disclosure in a prior art reference relating to function did not defeat the Board's finding of anticipation of claimed apparatus because the limitations at issue were found to be inherent in the prior art reference); see also *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971);< *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). "[A]pparatus claims cover what a device *is*, not what a device *does*." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

Because the wherein clauses distinguish the apparatus functionally and not structurally, they are not limiting of the claims.

***Claim Objections***

Claims 14-25 and 45-49 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. As these claims do not limit the structure as described above, they are not limiting.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 6-8, 12-14, 18-20, 24-27, 31-33, 37-39, 42, 44, 47, 49, 50, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior admitted art in view of Beatty et al. US Patent No. 5,615,127.

In reference to claims 1, 13, 26, 39, 44, and 50 prior admitted art teaches the sifting algorithm as described on page 3 of the instant application and symbolic model checking using OBDDs as described on page 14 of "ORDERED BINARY DECISION DIAGRAMS IN ELECTRONIC DESIGN AUTOMATION" incorporated as reference on page 2 of the instant application. Prior admitted art does not teach parallel processing of the sifting algorithm. Beatty teaches using parallel processing to solve complex tasks (column 4, lines 35-38). Accordingly, it would have been obvious for one skilled in the art at the time of invention to combine the teachings of the prior admitted art and Beatty to make a method/apparatus/computer software product with the limitations of claims 1, 13 and 26 because it would decrease the processing time of the complex task of reordering the binary decision diagrams (column 4, lines 35-38).

In reference to claims 2, 14, and 27, prior admitted art teaches that the sifting finds the optimal position of the variable in a row on page 3 of the instant application.

In reference to claims 6-8, 18-20, and 31-33, 42, 47, and 53 prior admitted art teaches sifting the BDD repeatedly until the variables are minimized on page 3 of the instant application.

In reference to claims 12, 24, and 37, prior admitted art teaches using a symbolic model checker for verification on page 14 of "ORDERED BINARY DECISION DIAGRAMS IN ELECTRONIC DESIGN AUTOMATION" incorporated as reference on page 2 of the instant application.

In reference to claims 25, 38, and 49 Beatty teaches that the processors are capable of being either a slave or master processor (column 4, lines 47-65).

### ***Allowable Subject Matter***

Claims 3-5, 9-11, 28-30, 34-36, 40-41, 43, 51-52, and 54 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claims that are drawn to methodologies that describe the specific interactions of the processors are allowable over the prior art of record.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon W. Bowers whose telephone number is (571)272-1888. The examiner can normally be reached on 8:30 am until 5:00 pm Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571)272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BWB

  
VUTHE SIEK  
PRIMARY EXAMINER